Message

From: Sasso, Alan [Sasso.Alan@epa.gov]
Sent: 4/8/2015 8:42:08 PM
To: Gibbons, Catherine [Gibbons.Catherine@epa.gov]; Newhouse, Kathleen [Newhouse.Kathleen@epa.gov]
Subject: RE: BaP + Cr(VI) bioassay
Attachments: Sanchez-martin_etal_TosSci2015_long-term-Cr6-BaP-GI-tract.pdf

I noticed that HERO bought the early edition of the article for me. It doesn't include the supplemental data though.

Ex. 5 Deliberative Process (DP) Ex. 5 Deliberative Process (DP)

-Alan

From: Gibbons, Catherine
Sent: Thursday, April 02, 2015 3:59 PM
To: Sasso, Alan; Newhouse, Kathleen
Subject: RE: BaP + Cr(VI) bioassay

I don't think it's necessary to go to extremes. Even though it's interesting, we can't use the data if they've combined exposures. Someday, maybe...unless I'm wrong? We could always make a case for it, or write a paper or something, I don't know.

From: Sasso, Alan
Sent: Thursday, April 02, 2015 3:36 PM
To: Gibbons, Catherine; Newhouse, Kathleen
Subject: RE: BaP + Cr(VI) bioassay

The paper is still not available (probably because of how recently it was accepted).

I'll keep checking, and I requested from HERO (maybe it can be purchased, even this early). Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

From: Gibbons, Catherine
Sent: Thursday, April 02, 2015 2:58 PM
To: Newhouse, Kathleen; Sasso, Alan
Subject: RE: BaP + Cr(VI) bioassay

There are a lot of studies looking at BaP and Cr6. Two great tastes that go great together.

From: Newhouse, Kathleen
Sent: Tuesday, March 31, 2015 10:51 AM

To: Sasso, Alan; Gibbons, Catherine
Subject: RE: BaP + Cr(VI) bioassay

Interesting. Thanks Alan.

-K

From: Sasso, Alan
Sent: Tuesday, March 31, 2015 7:27 AM
To: Gibbons, Catherine
Cc: Newhouse, Kathleen
Subject: BaP + Cr(VI) bioassay

I saw this poster at SOT--- looks like it just got published.

http://www.ncbi.nlm.nih.gov/pubmed/25820237

I think they have groups in which only a single chemical is administered, but I have to check....

Toxicol Sci. 2015 Mar 29. pii: kfv070. [Epub ahead of print]

Long-Term Co-Exposure to Hexavalent Chromium and B[a]P Causes Tissue-Specific Differential Biological Effects in Liver and Gastrointestinal Tract of Mice.

Sánchez-Martín FJ[1], Fan Y[1], Carreira V[1], Ovesen JL[1], Vonhandorf A[1], Xia Y[1], Puga A[2].
Author information

Abstract

Complex mixtures of environmental agents often cause mixture-specific health effects that cannot be accounted for by a single mechanism. To study the biological effects of exposure to a mixture of chromium-VI and benzo[a]pyrene (B[a]P), often found together in the environment, we exposed mice for 60 days to 0, 55, 550, or 5500 ppb Cr(VI) in drinking water followed by 90 days of co-exposure to B[a]P at 0, 1.25, 12.5, or 125 mg/kg/day and examined liver and GI tract for exposure effects. In the liver, the mixture caused more significant histopathology than expected from the sum of effects of the individual components, while in the GI tract, Cr(VI) alone caused significant enterocyte hypertrophy and increases in cell proliferation and DNA damage that were also observed in mice co-exposed to B[a]P. Expression of genes involved in drug metabolism, tumor suppression, oxidative stress and inflammation was altered in mixed exposures relative to control and to singly exposed mice. Drug metabolism and oxidative stress genes were up-regulated and tumor suppressor and inflammation genes down-regulated in the proximal GI tract, whereas most markers were up-regulated in the distal GI tract and down-regulated in the liver. Oral exposure to Cr(VI) and B[a]P mixtures appears to have tissue-specific differential consequences in liver and GI tract that cannot be predicted from the effects of each individual toxicant. Tissue specificity may be particularly critical in cases of extended exposure to mixtures of these agents, as may happen in the occupational setting or in areas where drinking water contains elevated levels of Cr(VI).

-Alan